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Advance Information

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General Information

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KEYNOTE SPEAKER
The Supercomputing '94 keynote address will be given by Ed McCracken, Chairman and Chief Executive Officer of Silicon Graphics, Inc.

PLENARY SESSIONS
Supercomputing '94 will have three plenary sessions, which are intended to provide a multidisciplinary discussion of large-scale computational science projects, representing the three applications themes of the conference. The plenary speakers will be:

Biology and Medicine
Large Scale Computational Problems in Medicine: Modeling, Computation, and Visualization
Chris Johnson, University of Utah

Environment
Realizing the Benefits of High Performance Computing for Solving Environmental and Other Problems: What Do We Need Beyond Faster Hardware?
Gary McKee, Massachusetts Institute of Technology

Manufacturing and Design
Integration of Numerical and Experimental Wind Tunnels (JofNWT)
Michael George, NASA Ames Research Center

(Continued inside)

Conference Highlights

We look forward to seeing you in Washington, D.C.

Mosaic: <http://sc94.ameslab.gov>
Gopher: info@sc94.ameslab.gov
E-Mail: sc94.ameslab.gov
Phone: 515-294-0673 or 800-854-1677

Fax: 515-294-0888

If you would like additional information about the conference, you may contact the Supercomputing '94 Information Server or Conference Office.

This mailer is intended to give you an opportunity to see in advance the technical program overview and tutorial topics for Supercomputing '94. Also enclosed are the registration form and housing information. You may register and reserve housing well in advance of the conference to avoid the last-minute rush. You should receive the detailed Supercomputing '94 Advance Program in the mail in September.

If you would like additional information about the conference, you may contact the Supercomputing '94 Information Server or Conference Office.



Registration Information

Advance Registration Use the enclosed registration form to submit your advance registration for Supercomputing '94. Early registration is recommended to ensure enrollment in the tutorial(s) of your choice.

To qualify for advance registration discounts, registration forms must be postmarked or faxed by October 14, 1994. Attendees who pre-register may pick up their conference materials at the Washington Convention Center beginning Sunday, November 13, from 1:00 pm - 5:00 pm. You will receive confirmation of your registration from the IEEE Computer Society. Please bring this confirmation with you. Registrations faxed or postmarked October 15-21 will be charged as late registrations; those faxed or postmarked after October 21 will not be acknowledged and must be resubmitted for processing on site.

On-Site Registration On-site registrants will pay late registration fees. Forms of payment accepted: credit cards (MasterCard, VISA, American Express, Diner's Club), traveler's checks, company and personal checks, cash, and purchase orders from U.S. Government offices. ONLY. Wire transfers will NOT be accepted on site.

Member and Student Discounts To qualify for member discounts, put your current ACM, SIGARCH, IEEE, or IEEE Computer Society membership number(s) on the registration form. Student registrants (\$90 fee) receive one copy of the proceedings and admission to the technical program, the exhibition, and social events.

International Attendees International attendees may submit advance registration by wire transfer for an additional processing fee of \$25. Wire transfers must be received by October 14, 1994. Wire transfers will not be accepted at on-site registration.

Payment You must fax or mail in your registration form. No registrations will be taken over the phone. A check, money order, original purchase order (U.S. Government offices only), or valid credit card number MUST accompany all advance registration forms. Checks or money orders must be in U.S. funds, drawn on U.S. banks, and made payable to the "IEEE Computer Society." Forms received without payment will be returned.

Cancellations and Substitutions Full registration fees will be charged unless a cancellation notice is sent in writing to the IEEE Computer Society, PO Box 18405, Washington, DC 20036-8405 and postmarked or faxed on or before October 14, 1994. A \$50 handling fee will be applied to cancelled registrations. No refund requests will be processed after October 14. Please allow ten weeks for processing.

Contact the IEEE Computer Society for substitutions (which are allowed at any time). At the conference, a letter on your company's letterhead is required from the original registrant stating the conditions of the substitution and the name of the replacement.

Special Needs We will attempt to accommodate participants' special needs. Please contact:

Lyz Baumiller • Supercomputing '94 Registration
Computer Sciences Corporation • NASA Ames Research Center
415-604-4370 • Fax: 415-966-8669 • Email: dunham@nasa.nasa.gov



MEMBERSHIP

Member numbers must be provided to receive member rates.

☐ ACM and/or SIGARCH Member Membership # _____

☐ IEEE Member Membership # _____

☐ IEEE-CS Member Membership # _____

☐ Non-member _____

☐ Student Member (Attach a copy of current ACM or IEEE student membership card or valid student identification card. Only full-time students are eligible for discounts.) _____

☐ Do not include my name, address, or phone number on a published list of attendees. _____

RETURN THIS FORM along with payment to:

IEEE Computer Society
PO Box 18405
Washington, DC 20036-8405
USA
ATTENTION:
SUPERCOMPUTING '94

202-371-1013 phone
202-728-0884 fax

Please do not write in box - for office use only
People # _____
Registration # _____

CONFERENCE REGISTRATION FORM

Print in black ink or type. **DO NOT SEND THIS FORM WITHOUT PAYMENT.** Form must be postmarked or faxed by October 21. Registration information is on preceding page.

Name _____
(As you would like it to appear on your badge) Last First Middle

Company _____

Address _____

City _____ State _____ Zip Code _____

Country _____ Telephone _____ Fax _____

Internet Address _____

TUTORIAL REGISTRATION

Fees are for EACH tutorial selected. Includes admission to the tutorial(s) selected, notes, and lunch for two half day tutorials on the same day or one full day tutorial. Circle your choices (see tutorials list inside).

MONDAY HALF DAY - PM	M1	M2	M3	M4	M5	M6	M7	M8	M9
MONDAY FULL DAY	M10	M11	M12						
FRIDAY HALF DAY - AM	F1	FRIDAY HALF DAY - PM	F2	F3	F4	F5	F6		
FRIDAY FULL DAY	F7	F8	F9	F10					
Postmarked or faxed					Member	Non-Member	Student		
(Advance)					FULL DAY \$325	\$425	\$85		
On or before Oct. 14					HALF DAY \$200	\$250	\$55		
(Late)					FULL DAY \$390	\$490	\$105		
After Oct. 14 but by Oct. 21					HALF DAY \$240	\$300	\$65		

A. Enter total tutorial registration fees: \$ _____

TECHNICAL PROGRAM REGISTRATION

Fees cover the technical program, exhibition, social events, and one copy of the proceedings. Circle your choice.

Postmarked or faxed	Member	Non-Member	Student
On or before Oct. 14 (Advance)	\$325	\$425	\$90
After Oct. 14 but by Oct. 21 (Late)	\$395	\$495	\$90

B. Enter technical program registration fees: \$ _____

PAYMENT

C. For international wire transfers, add \$25 fee: \$ _____
(A copy of the wire transfer transaction must accompany this form.)

D. Payment due, U.S. funds only (A+B+C): \$ _____

METHOD OF PAYMENT ☐ American Express ☐ Diner's Club ☐ MasterCard ☐ Visa

Card number _____

Cardholder name _____ Exp. date _____

Signature _____
All credit card charges will appear as IEEE COMPUTER SOCIETY on your statement.

☐ Company check # _____ ☐ Personal check # _____

☐ Traveler's check ☐ Purchase order (original PO must be included) ☐ Wire transfer

Checks and purchase orders should be made payable to the "IEEE Computer Society."

Tutorials

Tutorials provide information on recent developments and issues in high performance computing presented in a seminar-style format. The following section provides titles and authors of tutorials planned for Supercomputing '94. To register for a tutorial, please use the Conference Registration Form. Tutorial registration fees can be found on the form.

Monday, November 14 – Half Day Afternoon

Sorting Out Communication Libraries: A Comparison of NX, CMMD, PVM and MPI
Bill Saphir 15/60/25

Monday, November 14 – Full Day

The Science of Benchmarking
Roger Hockney, David Bailey 25/50/25

Introduction to Volume Visualization: Imaging Multi-dimensional Scientific Data
T. Todd Elvins 85/15/0

PVM/HeNCE: Tools for Heterogeneous Network Computing
Adam Beguelin, Jack Dongarra, Al Geist, Robert Manchek, Vaidy Sunderam 20/50/30

Message-Passing Programming for Scientists and Engineers
Cherri M. Pancake, Hugh M. Caffey 80/20/0

Compiler and Runtime Support for Distributed Memory Machines
J. Ramamujam, Alok Choudhary 20/50/30

High Performance Computing for Scientific Applications: An Introduction
Subhash Saini, Horst Simon 50/50/0

Interdisciplinary Adventures in Computational Biology
Paul Stolorz 0/100/0

ATM in a Supercomputer Network Environment
James D. McCabe 40/40/20

Clustered Workstation Environments
Dennis W. Duke, Doug Elias, Miron Livny, Louis H. Turcotte 20/60/20

Parallel I/O on Highly Parallel Systems
Bill Nitzberg, Sam Fineberg 25/50/25

Compilers: Source/Code-Level Optimizations and Resource Allocation
Constantine D. Polychronopoulos, Alex Nicolau 10/30/60

Friday, November 18 – Half Day Morning

Introduction to Virtual Reality
Henry A. Sowizral 80/20/0

Friday, November 18 – Half Day Afternoon

Virtual Reality – Practitioners of the Art
Henry A. Sowizral 10/80/10

Performance Tuning on RISC Systems
David Bailey, Charles Grassl, Ramesh Agarwal, Fred G. Gustavson, Mohammad Zubair, Richard E. Hessel 10/80/10

Parallel Programming Tools: Status, Evaluation and Comparison
Doreen Y. Cheng 20/60/20

Experiences with Scalable Parallel Architectures at Maui, Argonne, and Cornell
Brian Smith, Rick Stevens, Mal Kalos 25/50/25

Methodologies and Tools for Tuning Parallel Programs: Facts and Fantasies
Jerry C. Yan 25/50/25

Friday, November 18 – Full Day

Scientific Visualization: From Data to Photons
Mike Bailey 60/30/10

C++ for High Performance Computing
Ian G. Angus 75/25/0

Linear Algebra Algorithms and Software for Large Scientific Problems
Jack Dongarra, Iain Duff, Danny Sorensen, Henk van der Vorst 20/50/30

Computational Chemistry: Beyond the Black Box
Rozeanne Steckler, Peter Taylor, Franklin Brown 75/25/0

Conference Highlights

(continued)

TECHNICAL PROGRAM

The technical program will include panels, roundtables, tutorials, posters, research exhibits, and approximately 80 contributed papers. Panels provide a group of speakers the opportunity to discuss differing viewpoints on a subject of interest. Roundtables will be organized to discuss broad or difficult issues among participants with common interests. Tutorial details are included in this flyer to facilitate early registration. There is still time to meet the August submission deadlines for posters, research exhibits, the heterogeneous computing challenge, and SuperViz '94. Each of these is described in the calls for participation included in this flyer. The advance program, available in September, will provide a detailed schedule of all technical program activities.

EDUCATION PROGRAM

The education program at Supercomputing '94 will give both educators and administrators an introduction to High Performance Computing (HPC) and the National Information Infrastructure (NII). A three-day special program for precollege (K-12) educators will offer hands-on computational science and Internet instruction along with technical introductions to current computational methods and issues. Technical papers and panels for undergraduate and graduate educators will be highlighted. Opportunities for hands-on experience with computational science, HPC, and NII systems will be provided for education administrators.

ELECTRONIC PROCEEDINGS

Supercomputing '94 plans to offer an electronic version of the conference proceedings in cooperation with the IEEE Computer Society, in addition to the traditional hard copy proceedings. More details will be provided in the Advance Program, and access to the electronic proceedings over the Internet will be demonstrated at the conference. Attendees are encouraged to forego the hard copy to reduce printing costs and lessen the impact on the environment.

SPECIAL EVENTS

On Monday evening, November 14, the conference will open with a social event. This event will take place on the exhibit floor at the Washington Convention Center and will provide an opportunity for attendees to informally meet exhibitors and view developments in high performance computing technology at the Industry Exhibits.

On Thursday evening, November 17, the conference reception will be held at the Smithsonian's National Air and Space Museum — the most visited museum in Washington, D.C. The museum will be open exclusively to SC '94 attendees, and the evening will include several screenings of the museum's latest IMAX film, "Destiny In Space." The SC '94 awards ceremony will take place at this reception.

Housing Reservation Instructions

To make a hotel reservation for Supercomputing '94, you must call the WCVA Housing Service at: 800-535-3336 U.S. & Canada +1-202-842-2930 Metropolitan Washington Area / Outside the U.S.

Please have the following information ready:

1. Name of convention (Supercomputing '94).
2. 1st, 2nd, and 3rd choice of hotel.
3. Arrival/departure dates, number of rooms required, type of room (single, double, etc.).
4. Fax number (if you would like your confirmation faxed to you).
5. Credit card type, account number, name printed on card, and expiration date.
6. Name(s) of all occupants of room(s).
7. Address.
8. Daytime telephone number.

Deposit: A \$125.00 per room deposit is required for all reservations. The deposit amount is payable by credit card or check.

Credit Card: Your credit card will be charged immediately. Most major credit cards are accepted. Your room confirmation will be sent upon acceptance of your credit card charge.

Checks: An invoice for the \$125.00 per room deposit will be mailed to you. Payment must be received within 15 days of the invoice date or your reservation will be cancelled. Do not send payment without an invoice stub. Your room confirmation will be sent upon receipt of your check.

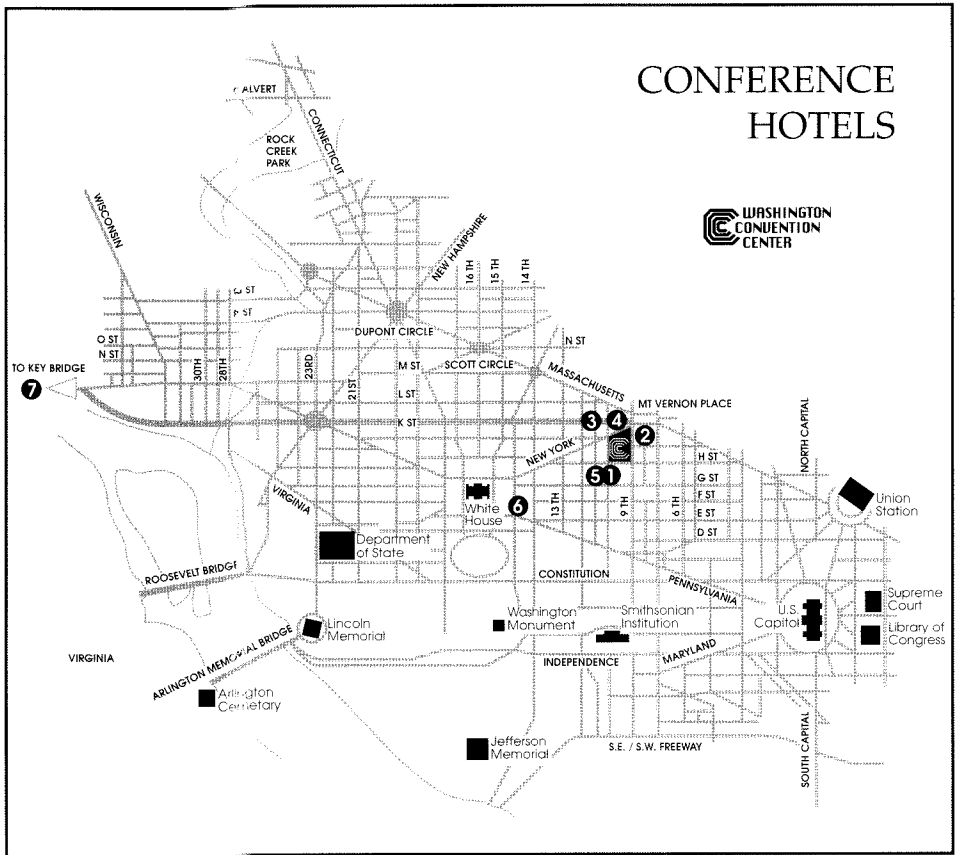
Changes: Through Friday, October 14, 1994, all changes should be made with the WCVA Housing Service. After October 14, 1994, changes should be made with the hotel directly.

Cancellations/Refunds: Cancellations made on or before Friday, October 14, 1994, should be made with the WCVA Housing Service and will be refunded in full. The WCVA Housing service will issue the refund. Cancellations made after October 14, 1994, and prior to 72 hours before arrival should be made with the hotel. A \$10.00 fee will be deducted from your deposit. The hotel will issue the refund.

YOUR RESERVATION MUST BE CANCELLED 72 HOURS PRIOR TO ARRIVAL OR THE ENTIRE \$125.00 DEPOSIT IS FORFEITED.

Inquiries: WCVA Housing Service • 1212 New York Avenue, NW • Washington, DC 20005
FAX: +1-202-289-8079

Child Care: Several of the conference hotels have agreed to host child care programs during the week of the conference if there is enough interest. If you would like to receive further information on this topic, please send email to kids@sc94.ameslab.gov. **No one under the age of 16 will be admitted on the exhibit floor.**



There's Still Time to Participate

RESEARCH EXHIBITS

Research Exhibits provide hands-on demonstrations of working research tools and systems. Exhibitors set up their own computing equipment on the exhibit floor and are free to demonstrate their work during all open hours of the exhibition.

Proposals for research exhibits should include an abstract, of no more than three pages, describing the purpose of the exhibit; the computing equipment to be used; required network connections; and a statement of justification if you need help with shipping costs. Send three copies of your submission, by August 1, 1994, to:

Joan Francioni • Research Exhibits Chair • Computer Science Department
University of Southwestern Louisiana • Lafayette, LA 70504-1771
318-231-6602 • Fax: 318-231-5791 • Email: jf@cacs.usl.edu

POSTERS

Authors interested in an informal, interactive presentation of results may submit a proposal for a poster exhibit. Traditional posters as well as video posters are encouraged.

Proposals should include an abstract of 100 words or less which describes the content of the poster, the mode of presentation (video, standard poster, combination), and any equipment requirements. Submit three copies of your proposal, by August 1, 1994, to:

Susan X. Ying • Poster Presentations Chair • Ames Laboratory
Iowa State University • 236 Wilhelm Hall • Ames, IA 50011
515-294-9469 • Fax: 515-294-9683 • Email: sxy@scri.fsu.edu

SUPERVIZ '94

SuperViz '94 will showcase state-of-the-art visualizations created by the high performance computing community. Entries are sought of visualizations that directly involve high performance computing — either in the production of the visualization or as the realization of a supercomputing application.

A SuperViz '94 video will be produced and will be shown during the conference. In addition, the video and a full color SuperViz '94 Proceedings that describes the accepted entries will be distributed.

Exhibit Information

The exhibition portion of this annual Supercomputing Conference is the premier showcase for high performance computing and communications organizations. This year over 150,000 square feet of space will be used by more than 100 industry and research exhibitors. On display will be supercomputers, workstations, software, network products, storage systems, telecommunications products, educational software, publications, and other services. In addition, researchers will demonstrate the results of their work in collaboration with industry exhibitors. There will be many high performance computers in operation, and most will be connected to each other and to the Internet via a high-speed network (known as SCinet '94) constructed especially for this exhibition.

General Information

Washington, D.C., the Nation's Capitol, has many great museums, wonderful restaurants, and a good mass transportation system. Supercomputing '94 will be held at the Washington Convention Center, which is located a few blocks from the National Mall — site of the U.S. Capitol, Washington Monument, Lincoln Memorial, Vietnam Memorial, and Smithsonian museums.

Convention Center: The Washington Convention Center is located between New York Avenue, 9th, H, and 11th Streets, N.W., in downtown Washington, D.C. The Center is convenient to commercial, historic, and cultural sites and can be reached by bus, automobile, or from several nearby Metro stations (including Metro Center) serving the city and suburbs.

Local Transportation: Transportation between Supercomputing '94 conference hotels and the Washington Convention Center is easy, using a combination of walking, the Metro, and taxicabs. The conference hotels in Washington, D.C. (see map below) are located within walking distance of the Convention Center, while the Hyatt Arlington is conveniently located across the street from the Rosslyn, Virginia Metro station. Taxi and bus service is available between downtown and each of the three area airports: Baltimore-Washington International Airport, Washington National Airport, and Washington-Dulles International Airport. There is also a Metro station at Washington National Airport.

Airline Information: USAir and American have been designated as official carriers for the attendees of Supercomputing '94.

USAir will offer special pricing for round trip travel originating in the continental United States during November 7-21, 1994, to Baltimore-Washington International Airport, Washington National Airport, and Washington-Dulles International Airport. Discounts include 5% off lowest applicable fares or special zone pricing. This offer is not combin-

Entries submitted to SuperViz '94 will be judged on the basis of technological innovation, design, and content. Details on how to submit an entry can be found on the SC '94 information server (sc94.ameslab.gov) or by contacting:

Patty Seger • 601-325-4049 • Fax: 601-325-7692
Email: seger@erc.msstate.edu

HETEROGENEOUS COMPUTING CHALLENGE '94 (HCC'94)

HCC'94 is intended to demonstrate the effective use of heterogeneous computing technology and methodologies in solving real applications. This is a competitive event in which participants present real-time demonstrations of their systems during the conference. Participants in the challenge will have access to the Internet as well as to machines supplied by industry exhibitors. Awards will be given for Third Place, Second Place, and Best Overall Challenge. Details on the format, judging criteria, and proposals can be found on the SC '94 information server (sc94.ameslab.gov). Proposals should be sent, by August 15, 1994, to Joan Francioni at the address given above.

STUDENT VOLUNTEERS

Student Volunteers are needed for Supercomputing '94 to assist with networking, registration, A/V equipment, exhibits, and various office duties. Volunteer positions will require from 25 to 30 hours of duty during or prior to the conference, from November 10th to November 19th. In addition to gaining hands-on experience with many aspects of advanced computing and its applications, students selected as volunteers will receive complimentary conference registration as well as hotel accommodations or local travel expenses. Students currently enrolled in an undergraduate or graduate program are encouraged to apply. Further information and application forms may be found on the SC '94 information server (sc94.ameslab.gov), or by contacting:

Johanna Weinstein • SC '94 Student Volunteer Coordinator
UMIACS • A.V. Williams Building • University of Maryland
College Park, MD 20742 • 301-405-6722 • Fax: 301-314-9658
Email: johanna@umiacs.umd.edu

Prime space is still available for companies wishing to display their products or services to the over 6000 attendees expected. This year, due to the location of the conference, it is likely that SC '94 will draw not only its traditional attendees but also additional government agency representatives, Capitol Hill staff, and Clinton administration officials.

For more information on participation in the exhibition, contact:

Don Collier • DC Expositions, Inc.
555 Republic Drive, Suite 316 • Plano, Texas 75074
214/423-4286 • dcexpo@aol.com

able with other discounts or promotions. Additional restrictions may apply on international travel. To obtain this special pricing, you or your travel agent must call the USAir's Meeting and Convention Reservation Office at 800-334-8644 and refer to Gold File No. 24750147.

American Airlines will offer a 5% discount off any published excursion fare for which an attendee qualifies. American also agrees to offer a 10% discount off Y26 (highest price) coach class fare. You or your travel agent must call the American Meeting Service Desk at 800-433-1790 and refer to Star File No. S-9031 to receive these special fares.

Rental Car Information: Hertz has been designated the official rental car company for SC '94. Special weekday rates ranging from \$32.99 to \$40.99 a day and weekend rates from \$17.99 to \$25.99 will be available. Phone the Hertz Convention Desk at 800-654-2240 and ask for convention #13383 to guarantee special rates.

Electronic Mail Facilities: SC '94 will provide an Electronic Mail service for the convenience of all registered attendees. A room at the Convention Center will house approximately 30 email stations that will be networked to the exhibit floor and to the Internet through the capabilities of SCinet '94.

CRA Workshop on Academic Careers for Women in Computer Science: The second CRA Workshop on Academic Careers for Women in Computer Science will be held on Sunday and Monday, November 13-14, 1994. This NSF-sponsored workshop is intended for junior faculty and finishing graduate students who are starting academic careers at research universities. It will provide the practical information that junior faculty need to be successful and the opportunity to interact with women already established in their fields. A limited number of travel grants will be available. For more information, please contact:

Jan Cuny • Email: cuny@cs.uregon.edu

Key	Hotels	Single	Double	Triple	Quad	Credit Cards*	Health Facility	Email Access	Hotel Parking	Proximity to WCC
1	Grand Hyatt Washington	\$143/154/165	\$165/176/187	--	--	A, V, M, DN, DS, CB, JBC	Yes \$8/day	Yes	\$12/day	Across street
2	Washington Renaissance	\$133**	\$153**	\$178	\$203	A, V, M, DN, DS, CB, JBC	Yes \$7.50/day \$10 stay	Yes	\$14/night	Across street
3	Days Inn Downtown/ Convention Center	\$80	\$80	\$90	\$90	A, V, M, DN	Yes no charge	Yes	\$8/day	3 blocks
4	Henley Park Hotel	\$145	\$165	\$185	--	A, V, M, DN, DS, CB	Yes no charge	Yes	\$5/day, \$15/overnight	1 block
5	Marriot - formerly Holiday Inn Crowne Plaza	\$138	\$138	\$148	\$158	A, V, M, DN, DS	Yes no charge	Yes	\$12/day	2 blocks
6	Hotel Washington	\$125	\$135	\$153	\$171	A, V, M, DN, CB	Yes no charge	No	\$15.75/24 hours	5 blocks
7	Hyatt Arlington	\$115 (\$99 Fri & Sat)	\$115 (\$99 Fri & Sat)	\$135	\$135	A, V, M, DN	Yes no charge	Yes	\$6/day (No charge Fri & Sat)	3 miles
* Key: A=American Express, V=Visa, M=Mastercard, DN=Diner's Club, DS=Discover, CB=Carte Blanche, JBC=Japan Bank of Commerce ** Single-\$153/Renaissance Club; Double-\$173/Renaissance Club										

Note: All Washington, D.C. guest room rates are subject to an 11% district tax and a \$1.50 per night occupancy tax; parking and health facility charges are also subject to D.C. sales tax. Hyatt Arlington guest room rates are subject to a 9.75% tax.